

## What Science Tells Us About Impaired Driving Behavior And Consequences Among U.S. College Students

### Alcohol-Impaired Driving

Alcohol problems among U.S. college students that make headlines and grab the public's attention are those that involve heavy drinking, which sometimes leads to alcohol poisoning, trips to emergency rooms, and even death. Fortunately, such events are, in fact, rare, except when driving is also involved. Deaths and injuries from alcohol-related traffic crashes are not rare. In 2005, of all the 1,825 estimated alcohol-related injury deaths of college students 1,357 were due to drinking and driving.

Drinking and driving is a relatively common behavior among college students. According to a [Harvard School of Public Health College Alcohol Study \(CAS\) report](#), about 30 percent of students drove under the influence of alcohol and 23 percent rode with a driver who was drunk or high. But it turns out that students are not all alike when it comes to drinking and driving. For example, a higher percentage of men, white students, and members of Greek organizations than other categories of college students drove after drinking and rode with a driver who was high or drunk. The percentage of students aged 21 to 23 who drove after drinking any alcohol and after having five or more drinks (often referred to as binge drinking) was higher than the percentage of students under the legal drinking age who did so. Although a higher

percentage of students aged 24 and up drove after drinking any alcohol than those under the legal drinking age, no differences between these groups existed in reports of driving after consuming five or more drinks. A smaller proportion of students older than age 24, compared with their younger peers, rode with an intoxicated driver.

The characteristics of colleges also influence student drinking and driving behavior. The CAS found that students at certain colleges were more likely to drink and drive. Students at large campuses reported higher rates of driving after consuming any alcohol, but at lower rates at schools in the Northeast. Students at medium-sized, public, and Southern and North-Central schools more often reported driving after consuming five or more drinks. Rates of riding with a high or drunk driver were higher among students attending public and Southern and North-Central schools, but lower among students attending commuter and competitive (i.e., where the ratio of applicants to admitted students is lower) schools. And both these drinking and driving behaviors occurred at a higher rate at schools with high rates of binge drinking.

In addition, living arrangements influenced drinking and driving behavior. A smaller percentage of students who lived in dormitories reported drinking and driving and riding with a high or

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drunk driver than students who lived in Greek houses. The lowest rates of drinking and driving occurred among residents of substance-free residence halls. Among off-campus residents, those who lived with parents had lower rates of drinking and driving than those who lived alone or with a roommate.

## Drug-Impaired Driving

Less research has been conducted on drug-impaired driving among U.S. college students, but according to the National Highway Traffic Safety Administration (NHTSA), recently “more attention has been given to drugs other than alcohol that have increasingly been recognized as hazards to road traffic safety. . . . Overall, marijuana is the most prevalent illegal drug detected in impaired drivers, fatally injured drivers, and motor vehicle crash victims.”

According to the latest National Roadside Survey conducted by NHTSA, more than 16 percent of weekend nighttime drivers tested positive for drugs. However, NHTSA cautions readers that “drug presence does not necessarily imply impairment. For many drug types, drug presence can be detected long after any impairment that might affect driving has passed. For example, traces of marijuana can be detected in blood samples several weeks after chronic users stop ingestion. Also, whereas the impairment effects for various concentration levels of alcohol is [sic] well understood, little evidence is available to link concentrations of other drug types to driver performance.”

The 2008 National Survey on Drug Use and Health found that “In 2008, 10.0 million persons aged 12 or older reported driving under the influence of illicit drugs during the past year. This corresponds to 4.0 percent of the population aged 12 or older, the same as the rate in 2007 (4.0 percent), but lower than

the rate in 2002 (4.7 percent). In 2008, the rate was highest among young adults aged 18 to 25 (12.3 percent).”

The 2010 Obama Administration National Drug Control Strategy has established preventing drugged driving as a priority. It calls for greater efforts on the part of federal agencies to collect more information on drugged driving and encourages states to adopt, among other regulatory legislative measures, laws clarifying that the presence of any illegal drug in a driver’s body is *per se* evidence of impaired driving.

## Prevention Initiatives

Despite the seriousness and magnitude of drinking and drugged driving by students, prevention efforts aimed at reducing these behaviors *per se* are not a focus on many campuses, which have programs aimed at reducing alcohol and other drug abuse generally but not specifically at drinking and drugged driving. Those campuses that support drinking and driving prevention have a tendency to focus on transportation issues by providing “safe rides” for drinkers and passengers who would otherwise be driving under the influence or riding with an impaired driver. Those programs provide safe transportation for free or at a reduced rate. For example, since 1999, CARPOOL, a student-run safe ride program at Texas A&M University, provides “free, safe, and fun nonjudgmental rides” to the Bryan/College Station community during the hours of 10 p.m. to 3 a.m. on Thursday, Friday, and Saturday nights during the spring and fall semesters. Some campuses provide free van service to and from campus and entertainment districts. Associated Students at the University of California-San Diego (UCSD) operates A.S. Safe Rides through a shuttle service to provide UCSD undergraduates with free transportation from 11 p.m. to

3 a.m. on Tuesday, Thursday, Friday, and Saturday nights during the academic year.

Designated driver (DD) programs, which have been around for more than two decades, are another popular approach for preventing drinking and driving. DD programs can be education and awareness efforts at colleges or in communities that encourage people to identify a designated driver before they go out to a party or bar. They can also be promoted by bars and taverns, which may offer price discounts on nonalcoholic beverages for the designated driver. For the most part, these programs work best when drinkers are part of a group, with one member of the group agreeing not to drink and to be the sober driver, but it doesn’t always work that way. A 2003 study of designated drivers among college students in Virginia found that although the mean blood alcohol concentration (BAC) of the designated drivers was below the legal limit of intoxication in Virginia, which is .08 percent, they had not abstained from drinking alcohol and had a mean BAC of .06 percent, which is above the .05 percent BAC limit at which psychomotor impairment begins.

The researchers also found that the mean BAC of both male and female passengers was above the legal limit for driving, regardless of whether they were using a designated driver. “This is alarming, particularly for the participants who did not have a sober DD. This finding shows a severe problem of alcohol consumption in a university community and indicates that the DD approach is clearly not a quick-fix solution,” the researchers wrote.

In the early 2000s, researchers at San Diego State University conducted an environmental driving under the influence (DUI) prevention trial that used a media campaign touting increased enforcement coupled with DUI

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# What Science Tells Us

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checkpoints and roving DUI patrols. The study found a significant reduction in DUI at the experimental campus compared with no change at the control campus.

## Policy as Prevention

While not necessarily directed specifically at college students, a number of public policies have been very successful in reducing DUI among youths and young adults. NHTSA says, "Perhaps no alcohol safety measure has attracted more research and public attention or shown more consistent evidence of effectiveness than the minimum legal drinking age (MLDA) 21 law in the United States" (*An Examination of the Criticisms of the Minimum Legal Drinking Age 21 Laws in the United States from a Traffic-Safety Perspective*, October 2008).

NHTSA estimates that minimum drinking age laws have saved 26,333 lives since 1975. This estimate represents people of all ages who otherwise would have been involved in a fatal crash with 18- to 20-year-old alcohol-impaired drivers.

The CAS researchers found that other policies had an effect on drinking and driving by college students. "The underage laws considered were: prohibitions against using a false identification, restrictions on attempting to buy or consume for those under the legal drinking age, minimum age to be a clerk, minimum age of 21 years to sell alcohol (local), minimum age of 21 years to sell alcohol (state), and mandatory postings of warning signs to potential underaged buyers for retailers."

Laws that pertained to the minimum legal drinking age were examined for underage students only. Laws pertaining to volume alcohol sales were: keg registration; a statewide .08 percent BAC law; and restrictions on happy hours, open alcohol containers, beer sold in a pitcher, and billboards and advertising. The researchers also added a rating of law enforcement—a measure designed to reflect state-level investments in resources for law enforcement agencies, including the equipment and personnel necessary for effective enforcement efforts—to their consideration of the set of laws enacted in each state and community.

The researchers found that students who attended colleges in states that had more restrictions on underage drinking, high-volume consumption, and sales of alcoholic beverages and that devoted more resources to enforcing drunk driving laws, reported less drinking and driving. For example, at 8.2 percent, the rates of drinking five or more alcoholic beverages and driving were significantly lower among underage students who attended college in states that had a majority of control laws (four of seven laws) pertaining to underage drinking, compared with 11.6 percent reporting driving after drinking five or more alcoholic beverages in states with fewer than four alcohol control laws. The researchers concluded: "The occurrence of drinking and driving among college students differs significantly according to the policy environment at local and state levels and the enforcement of those policies. Comprehensive policies and their strong enforcement are promising interventions to reduce drinking and driving among college students." ■

## Message From Kevin Jennings, OSDFS Assistant Deputy Secretary

With more than 1,300 student deaths a year, drinking and driving is the leading cause of death and injury among U.S. college students—for both drivers and passengers.

While there is a great deal of research on the extent and consequences of drinking and drugged driving, little of that research is focused specifically on college and university students. But concerns about the rates of impaired driving, especially drugged driving, have led the White House Office of National Drug Control Policy in its *National Drug Control Strategy* to say that preventing drugged driving must become a national priority on a par with preventing drunk driving. This newsletter examines students driving impaired by either alcohol or other drugs as well as some of the prevention initiatives that can reduce the risks and adverse consequences related to that all-too-common behavior.

Drawing from national surveys of students at four-year colleges and universities, the Harvard School of Public Health College Alcohol Study reports on the extent of driving when drinking or high by college students. It also reports on how states with more alcohol control measures and greater enforcement of those measures can influence the drinking and driving by students.

Automobile Club of Southern California researcher Steven Bloch describes the disturbing increases in drinking and driving by young women and the College and University Drinking and Driving Prevention Awards program, which identified more than 50 promising campus-based drinking and driving prevention programs. ■



## ONDCP Drugged Driving Initiative

Americans are all too familiar with the terrible consequences of drunk driving and also are becoming increasingly aware of the dangers of driving with distractions, such as text messaging or talking on a cell phone. Working with the Department of Transportation and other federal agencies, the White House Office of National Drug Control Policy (ONDCP) is taking steps to also highlight the growing problem of drugged driving. For an overview of the problem, related research, tips sheets, and resources, as well as a message from the ONDCP director on the topic, visit <http://www.whitehousedrugpolicy.gov/druggeddriving>.

# Q&A With Steven Bloch, Automobile Club of Southern California

*Steven Bloch has been a traffic safety researcher and policy analyst with the Automobile Club of Southern California for more than 20 years. He has worked extensively in the area of traffic safety policy and research as well as drinking and driving prevention. For nine years, he coordinated the nine-state College and University Drinking and Driving Prevention Awards program. Bloch helped pass graduated driver licensing laws for teen drivers in California, Texas, New Mexico, and Hawaii, and completed several evaluations of the laws' effectiveness. His recent research focuses on holiday drinking and driving and long-term driving under the influence trends. He is a member of the Drinking and Driving Subcommittee for California's Strategic Highway Safety Plan and the Orange County DUI Task Force.*

**Q:** From your research in California, what are the trends in drinking and driving, especially among young adults aged 18 to 24?

**A:** In California, we experienced about a 60 percent reduction in alcohol-related traffic fatalities from the early 1980s into the late 1990s. I attribute that to the fact that California was one of the leaders in drinking and driving prevention during that time. For example, Mothers Against Drunk Driving was founded in California in 1980. And the state Legislature passed a variety of innovative laws in the 1980s and early 1990s that led to substantial reductions in drinking and driving. But in 1997 and 1998, there began an extended period with a dramatic increase of about 50 percent in drinking and driving fatalities and injuries. When examining which groups were most overrepresented in this in-

crease, I found it was primarily 18- to 30-year-olds, which includes college students. These increases were particularly strong among women. While men generally drink—and drink and drive—much more than women do, the increases among women were really dramatic. For example, among 21- to 24-year-old women in California there was more than a doubling in the number of women drivers in alcohol-related fatal and injury crashes—far greater than the increase among men. For men the increase was about 40 percent but for women it was about 116 percent. The second largest increase was among 18- to 20-year-olds and that was followed by those aged 25 to 29. It was really the 18- to 24-year-olds who showed dramatic increases. There was no increase among drivers over age 30.

There has also been a large increase in crashes where drivers were either using drugs by themselves or drugs in combination with alcohol. Unfortunately, it's not clear whether there has been an actual increase in drug use or whether law enforcement officials just have developed a much better ability to detect drugs.

**Q:** The Automobile Club of Southern California sponsored the College and University Drinking and Driving Prevention Awards program along with the Center for College Health and Safety (Newton, Mass.) to identify and disseminate model approaches to reducing drinking and driving on campus as well as preventing alcohol and other drug use that can result in impaired driving. Can you describe this program and any lessons learned?

**A:** This awards program involved nine states and lasted nine years, ending in 2006. In 1997, the Automobile Club and the center combined forces to locate and promote model

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## Updates

### Violence Report

On the third anniversary of the tragic April 16, 2007, shooting at Virginia Tech, the U.S. Secret Service, the U.S. Department of Education, and the Federal Bureau of Investigation released *Campus Attacks: Targeted Violence Affecting Institutions of Higher Education*, a study of targeted violence incidents on U.S. campuses of higher learning.

The goal of this report was to understand the scope of the problem of targeted violence at institutions of higher education (IHEs). It includes preliminary findings from a review of 272 incidents of violence that affected IHEs in the United States from 1900 through 2008. It also addresses fundamental questions regarding where, when, and how these incidents occurred and provides information concerning the offenders and their relationship to the IHEs. When possible, it identifies factors that may have motivated or triggered the attacks.

The report is intended for threat assessment and campus safety professionals charged with identifying, assessing, and managing the risk of violence at IHEs. The introduction says, "Ensuring the safety of college and university communities—some of which resemble small cities—is a daunting task. Navigating the intricacies of privacy laws, preserving academic freedoms, complying with civil rights laws, and simultaneously ensuring a safe campus and workplace environment are tasks not easily accomplished. We hope that this preliminary report contributes to that effort."

# Q&A With Steven Bloch

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drinking and driving prevention programs through a competitive application process that was judged by a national review committee. Campuses selected as model programs were eligible for up to \$5,000 to support their efforts. As a result of this program, nearly 50 winners were promoted as models through publications and conference presentations, such as at the U.S. Department of Education's National Meeting on Alcohol, Drug Abuse, and Violence Prevention in Higher Education; Lifesavers; and the International Council on Alcohol, Drugs, and Traffic Safety.

Another goal of the awards program was to raise awareness of the seriousness of drinking and driving by college students. Drinking and driving is the most dangerous activity that the students are involved in and is the greatest killer of college students. And the size of the problem far exceeds the drinking and driving prevention efforts on most campuses. Even among the colleges that entered the awards program, the focus was more on alcohol prevention, with less concern for the most serious issue in terms of death and injury, which is drinking and driving.

While the awards program identified a number of interesting and innovative drinking and driving prevention efforts, it was discouraging that the programs were not particularly well funded. They weren't institutionalized at the colleges and universities. In many cases, programs existed because of the dedicated people involved. But as students graduated

and staff moved on, programs too often ended. In addition, while there was a great deal of expertise in running programs at the college itself, what was needed was expertise on using the media to raise awareness of the seriousness of student drinking and driving.

**Q:** Do you have any comments about drugged driving among college students or in general?

**A:** Drugs and driving data are tough to examine. There are simply a lot of limitations to what we know. It is not as easy to measure as alcohol-involved driving, and there are major problems when we examine data over time because drug detection technologies have improved so much and interest in the subject by police and the public has increased substantially. Therefore, it is not surprising that we are detecting more drug involvement in traffic crashes in recent years.

Still, the level of increase in drug-involved traffic crashes is alarming. In California, from 1998 through 2008, reported drug-involved fatalities rose 173 percent. Drugs are now involved in 21 percent of all California traffic deaths.

There is still a lot of controversy about at what level specific drugs impair drivers. My favorite recent study, however, reported that the propensity to use substances of any kind among youth nationally was more strongly related to motor vehicle crashes than the use of any specific substance studied, including marijuana, alcohol, and cigarettes. In other words, young people with an interest

in sensation seeking were more likely to use drugs and to take risks generally, including driving under the influence. The specific drug involved was not really a crucial factor.

**Q:** What do you think needs to be done?

**A:** First, colleges and universities should conduct an assessment of drinking and driving behavior among their students to find out where the drinking and driving occurs—what exactly the problem is and what can be done about it. Second, they need to form coalitions internally and with the community to develop solutions that deal with student drinking and driving, which basically takes place off campus. For example, ordinances requiring server training programs at licensed establishments to prevent overservice is one approach that requires campus-community collaboration. Another policy is to increase the cost of a drink. Young people are very price conscious and there is good research demonstrating that increasing the price of a drink decreases alcohol consumption and injury, particularly among young drivers. One of the policies that I promote is a decrease in blood alcohol concentration (BAC) limits. Young people tend to become impaired at lower BAC levels than older people. So a BAC limit of .05 percent makes particular sense for people aged 18 to 24, or even those up to age 30. Sanctions for lower BAC stops, such as at .05–.07 percent, would not be criminal but would largely involve brief license suspensions and fines. ■

## Young Women and Drinking and Driving

According to a study based on data from the National Highway Traffic Safety Administration on fatal traffic collisions for the years 1995 to 2007, alcohol is an increasingly important factor in the rising toll of fatal car crashes involving young women drivers in the United States.

The researchers found that the increase in the proportion of young female drivers with a positive blood alcohol test involved in a fatal collision was greater (3.1 percent) than it was for young male drivers (1.2 percent). They also found that the increase in the proportion of young drivers involved in fatal crashes with positive blood alcohol tests at all times of the week was greater among young women than it was among young men. This rose by 3.5 percent on weekdays

and 2.2 percent at weekends among young women compared with 1.5 percent and 0.4 percent, respectively, among young men.

The researchers said that the gender patterns found in this study reflect increasing trends in drug misuse among young women. They said, "As women continue to be encouraged to take on more traditional male roles within cultures and society, young women may also feel compelled to match their young male counterparts in risk-taking behaviours and aggression."



## Our Mission

The mission of the U.S. Department of Education's Higher Education Center for Alcohol, Drug Abuse, and Violence Prevention is to assist institutions of higher education in developing, implementing, and evaluating alcohol and other drug abuse and violence prevention policies and programs that will foster students' academic and social development and promote campus and community safety.

## Get in Touch

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## How We Can Help

- Resources, referrals, and consultations
- Training and professional development activities
- Publication and dissemination of prevention materials
- Assessment, evaluation, and analysis activities
- Website featuring online resources, news, and information

## Office of Safe and Drug-Free Schools

If you would like more information about the Office of Safe and Drug-Free Schools (OSDFS), please visit the office's website at <http://www.ed.gov/OSDFS>. For more information about the office's higher education initiatives, please contact:

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## Updates

### **WHO Adopts a Global Alcohol Strategy**

A global strategy to reduce the harmful use of alcohol was adopted on May 20, 2010, by consensus at the annual assembly of the World Health Organization (WHO). The 10 main policy recommendations, which were developed after two years of negotiation, are not binding but serve as guidance to WHO's 193 member states.

Member states were urged to adopt the strategy "to complement and support public health policies and to mobilize political will and financial resources." The strategy covers a range of policy areas, including health services, community action, drinking and driving, the availability and marketing of alcohol, public health campaigns, and pricing and illicit production of alcohol.

## Resource

Safe Lanes on Campus: A Guide for Preventing Impaired Driving and Underage Drinking (2003)

*Safe Lanes* helps senior administrators, faculty, staff, students, community leaders, enforcement agencies, and campus and community coalitions choose prevention strategies appropriate to their campuses and communities to address driving under the influence of alcohol by students of all ages and alcohol use by students under the legal drinking age.

## Photo Credit

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